

WHAT IS CLAIMED IS:

1. A method of forming a stator comprising:
  - providing a stator frame having a frame plate;
  - connecting a plurality of key bars to said frame plate at respective connection points, each of said key bars having a dovetail;
  - providing a stator core comprising a plurality of laminations each having a dovetail slot formed therein;
  - engaging each of said dovetails into respective dovetail slots so that at least some of said dovetails contact respective laminations at respective contact points; and
  - controlling respective locations of said contact points such that a force load transmitted by said contact points is evenly distributed among said contact points.
2. The method of claim 1 wherein said locations of contact points are controlled such that key bar stress at said connection points is minimized.
3. The method of claim 2 wherein said locations of contact points are controlled such that a stiffness of all said contact points is equal.
4. The method of claim 3 wherein said stiffness is controlled by varying a distance between said contact points and said frame plate.
5. The method of claim 4 wherein said stiffness can be reduced by arranging said locations of contact points further away from said frame plate.
6. The method of claim 2 wherein said locations of contact points are controlled by varying a cross-sectional area of said dovetail slots such that at

least two of said laminations respectively have dovetail slots which have different cross-sectional areas.

7. The method of claim 6 wherein said locations of contact points are controlled by increasing a size of said dovetail slots in those laminations where a contact point is not desired and decreasing a size of said dovetail slots in those laminations where a contact point is desired.

8. The method of claim 2 wherein said locations of contact points are controlled by respectively arranging wedges within some of said dovetail slots to form said contact points.

9. A stator comprising:

a stator frame having a frame plate;

a plurality of key bars connected to said frame plate at respective connection points, each of said key bars having a dovetail;

a stator core comprising a plurality of laminations each having a dovetail slot formed therein;

wherein each of said dovetails engages into respective dovetail slots so that at least some of said dovetails contact respective laminations at respective contact points, said contact points being located such that a force load transmitted by said contact points is evenly distributed among said contact points.

10. The stator of claim 9 wherein said contact points are located such that key bar stress at said connection points is minimized.

11. The stator of claim 10 wherein said contact points are located such that a stiffness of all said contact points is equal.

12. The stator of claim 9 wherein respective cross-sectional areas of said dovetail slots vary such that at least two of said laminations respectively have dovetail slots which have different cross-sectional areas.

13. The stator of claim 12 wherein respective cross-sectional areas of said dovetail slots in those laminations where contact points are not desired are larger than respective cross-sectional areas of said dovetail slots in those laminations where contact points are desired.

14. The stator of claim 9 further comprising wedges which are respectively arranged within some of said dovetail slots to form contact points.